

Application No. 10/676,673  
Amendment dated August 21, 2007  
Reply to Office Action of May 23, 2007

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**REMARKS/ARGUMENTS**

Applicant has carefully reviewed and considered the Office Action mailed on May 23, 2007, and the references cited therewith.

Claims 1 and 15 are amended, no claims are cancelled or added; as a result, claims 1-9, 15-18, and 20 remain pending in this application.

**§103 Rejection of the Claims**

Claims 1-9, 15-18 and 20 were rejected under 35 USC § 103(a) as being unpatentable over Courtney (U.S. Patent No. 5,610,638) in view of Hackleman (U.S. Patent No. 5,742,305).

Applicant respectfully traverses the rejection as follows.

With regard to independent claims 1 and 15, the Applicant submits that the Courtney and Hackleman references, alone or in combination, do not describe, teach, or suggest each and every element provided in the Applicant's claims. The Office Action does not indicate that either the Courtney reference or the Hackleman reference describe, teach, or suggest the claimed limitation of "a heater array with heater elements coupled to the nozzle member" (claim 1) or "using a heater array with heater elements" (claim 15), nor does Applicant find these claimed limitations in the cited portions of the references. In omitting claimed limitations, the Office Action does not satisfy the initial burden of establishing a *prima facie* conclusion of obviousness. Accordingly, Applicant respectfully requests withdrawal of the 103 rejection of independent claims 1 and 15, as well as those claims that depend therefrom.

In addition, page 4 of the Office Action acknowledges that the Courtney reference does not disclose nozzles being offset. The Examiner looks to Figure 2 of the Hackleman reference to teach this missing limitation, and suggests it would have been obvious for one having ordinary skill in the art at the time the invention was made to modify Courtney's printhead assembly to offset a plurality of nozzles. Applicant respectfully disagrees.

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The Courtney reference appears to adjust the mechanics of printing an image using a thermal inkjet printhead based on temperature and image density information. Temperature is used to determine whether the image is produced using a single pass of the printhead across a recording medium, e.g., paper, or a doublepass, i.e., passing the printhead back and forth in two swathes across the same area of the paper media. In doublepass mode, the printhead ejects the required dots from alternate, i.e., non-adjacent, ink jets in a checkerboard pattern. Every other ink jet, e.g., nozzle, is used on the first pass, with the ink jets not used on the first pass being used on the second pass back.

One having ordinary skill in the art would not look to the Hackleman reference for the purposes of modifying the moving Courtney printhead assembly because the Hackleman reference discloses a stationary page-wide-array (PWA) printer element. The printhead disclosed in the Hackleman reference has horizontal rows of nozzles extending across the page-wide-array, firing multiple nozzles arranged horizontally to produce a horizontal line. In contrast, the Courtney reference appears to describe producing a line of ink dots across a page by moving an ink jet printhead back and forth across the page, with a single ink jet producing all the ink dots comprising one horizontal line on the paper. The Courtney reference already accomplishes not having adjacent ink jets firing (at high temperatures) by using two passes and firing alternating, i.e., non-adjacent, ink jets in any one pass. Thus there does not appear to be motivation for one skilled in the art to look to the Hackleman reference for such a modification.

The nozzles disclosed in the Courtney reference are arranged vertically since the printhead moves horizontally across the page (see Figs. 4 – 5). The stated purpose in the Courtney reference for not having adjacent ink jets firing (at high temperature) is done so as to have adjacent (lines of) dots deposited in different passes as the printhead travels back and forth across the page to prevent adjacent (lines) of wet dots from smearing and blending together. Offsetting the nozzles

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would not appear to produce any additional benefit since the printhead moves.

Offset nozzles on a moving printhead would not alone appear to separate horizontal lines of wet ink dots, and thus still require turning off alternating nozzles, defeating any advantage obtained by offsetting adjacent nozzles.

Finally, the Courtney reference explicitly expresses a preference for a printhead having a plurality of aligned nozzles (see column 1, lines 14-17, and column 3, lines 62-66). This appears to be an important feature in since the printhead described by the Courtney reference passes back and forth across a page, each nozzle providing ink dots associated with one line across the entire width of the recording medium. Therefore, modification of the Courtney reference away from the preferred vertical alignment of nozzles, with the teachings of the Hackleman reference as suggested in the Office Action, lacks the requisite motivation. Accordingly, and for all the reasons set forth above, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of independent claims 1 and 15, as well as claims 2-9, 16-18, and 20 that respectively depend therefrom.

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**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney Robert D. Wasson at (360) 212-2338 to facilitate prosecution of this matter.

At any time during the pendency of this application, please charge any additional fees or credit overpayment to the Deposit Account No. 08-2025.

**CERTIFICATE UNDER 37 C.F.R. §1.8:** The undersigned hereby certifies that this correspondence is being transmitted to the United States Patent Office facsimile number (571) 273-8300 on

August 21, 2007

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